

**BY ORDER OF THE CHIEF,
NATIONAL GUARD BUREAU**

MANPOWER STANDARD 22BISO

1 DECEMBER 2004

Manpower Standard

SORTIE GENERATION EC-130E (RIVET RIDER)



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This Air National Guard Manpower Standard (ANGMS) quantifies the manpower required to accomplish the tasks described in the process oriented description (POD) for varying levels of workload in the Sortie Generation EC-130E (Rivet Rider). This ANGMS applies to the Sortie Generation EC-130E, Rivet Rider mission only, at the 193rd SOW, PA. This standard applies to peacetime operations only. The Air National Guard (ANG) is the authority for the approval and publication of ANG Manpower Standards. Air Force (AF) and ANG directives contain policy and procedural guidance for the operation of the Rivet Rider function. This standard was developed in accordance with AF Instruction (AFI) 38-201, *Determining Manpower Requirements*, and AF Manual (AFMAN) 38-208, Volume 1, *Air Force Management Engineering Program (MEP)—Processes*, and AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP)—Quantification Tools*. Send comments and suggested improvements on AF IMT 847, *Recommendation for Change of Publication*, through channels, to ANG, Management Engineering Branch (ANG/XPME/Operating Location TN [OLTN]), 106 Briscoe Drive, McGhee Tyson ANG Base TN 37777-6283.

1. STANDARD DATA:

1.1. Approval Date. 1 December 2004.

1.2. Man-hour Data Source. Operational Audit method (historical record and technical estimate techniques).

1.3. Standard Man-hour Equation. $Y = 626.6 + 9.390X1 + 143.0X2$.

1.4. Workload Factor:

1.4.1. Titles:

1.4.1.1. $X1$ = A Programmed Flying Hour.

1.4.1.2. X2 = A Primary Aircraft Inventory.

1.4.2. Definition.

1.4.2.1. X1 = Monthly number of flying hours programmed.

1.4.2.2. X2 = Average monthly primary aircraft inventory.

1.4.3. Source. USAF Program Document (PD), Volume II maintained by ANG/XPPI.

1.4.4. Points of Contact:

1.4.4.1. Functional: Lt Col Robert Hoback, ANG/LGY.

1.4.4.2. Manpower: Mr. Steve Griffith, Chief, ANG/XPME, Management Engineering Branch.

2. APPLICATION INSTRUCTIONS:

2.1. Step 1. Man-hour Equation. Apply the man-hour equation in paragraph 1.3., to determine required man-hours.

2.2. Step 2. Man-hour Availability Factor (MAF). Divide the resulting man-hours by the appropriate MAF times the overload factor.

2.3. Step 3. Upper and Lower Extrapolation Limits:

2.3.1. $Y_U = 3246.14$.

2.3.2. $Y_L = 1947.69$.

2.4. Step 4. Air Force Specialty Codes (AFSC) Requirement. Use the Manpower Table attachment 3 to determine required AFSCs.

3. STATEMENT OF CONDITIONS. The conditions listed below had no affect on the development of this standard: minimum response rates, minimum manpower levels, standardized crew complements, safety considerations, aircraft turn-around time, length of waiting periods, levels of backlog and hours of operation.

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Director, Air National Guard

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 38-201, *Determining Manpower Requirements*

AFMAN) 38-208, Volume 1, *Air Force Management Engineering Program (MEP)-Processes*

AFMAN 38-208, Volume 2, *Air Force Management Engineering Program (MEP) - Quantification Tools*

Abbreviations and Acronyms

AF — Air Force

AFI — Air Force Instruction

AFMS — Air Force Manpower Standard

AFSC — Air Force Specialty Codes

AFTO — Air Force Technical Order

ANG — Air National Guard

ANGI — Air National Guard Instruction

ANGMS — Air National Guard Manpower Standard

BPO — Basic Post Flight

FMB — Financial Management Board

FOD — Foreign Object Damage

LOX — Liquid Oxygen

MEP — Management Engineering Program

MOC — Maintenance Operational Check

MSDS — Material Safety Data Sheets

POD — Process Oriented Description

TCTO — Time Compliance Technical Order

UTA — Unit Training Assembly

Terms

Air National Guard Manpower Standard (ANGMS)—A numbered, specialized publication that quantifies manpower requirements for a work center. Also includes approved variances. See AFI 38-201.

Man-hour—A unit of measuring work. It is equivalent to one person working at a normal pace for 60 minutes, two people working at a normal pace for 30 minutes, or a similar combination of people working at a normal pace for a period of time equal to 60 minutes.

Manpower Standard—The basic tool used to determine the minimum level of manpower required to support a function. It is a quantitative expression that represents a work center's man-hour requirements in response to varying levels of workload.

Process Oriented Description—A format that shows work center responsibilities structured for easy measurement of work categories, tasks, and subtasks.

ATTACHMENT 2

**PROCESS ORIENTED DESCRIPTION
SORTIE GENERATION**

Table A2.1. Listing of Functional Process.

TASK NO.	PROCESS
1.	C-130 FLIGHTLINE ON-MAINTENANCE.
1.1.	PERFORMS PREFLIGHT INSPECTION. Performs aircraft preflight servicing, inspection, and maintenance. Reviews previous write up (Red "X" condition). Reviews and updates AFTO Form 781, AFORM Aircrew Mission Flight Data Document.
1.2.	PERFORMS THRU-FLIGHT INSPECTION. Performs aircraft preflight servicing, inspection, and maintenance. Reviews previous write up (Red "X" condition). Reviews and updates AFTO Form 781 series.
1.3.	PERFORMS BASIC POSTFLIGHT (BPO) INSPECTION. Performs BPO inspection and maintenance.
1.4.	PERFORMS COMBINED BPO AND PREFLIGHT INSPECTION. Performs BPO inspection and maintenance.
1.5.	PERFORMS SPECIAL INSPECTION. Inspects and performs all tasks necessary to accomplish special inspection requirement.
1.5.1.	PERFORMS ACCEPTANCE INSPECTION.
1.5.2.	PERFORMS SPECIAL INSPECTION.
1.5.3.	PERFORMS 15-DAY INSPECTION.
1.5.4.	PERFORMS 15-DAY JACKSCREW LUBE.
1.5.5.	PERFORMS 45-DAY AIRCRAFT BATTERY INSPECTION.
1.5.6.	PERFORMS MAIN LANDING GEAR LUBE AND FLAP INSPECTION.
2.	PERIODIC/ISOCHRONAL INSPECTION.
2.1.	PERFORMS ISOCHRONAL INSPECTION. Accompanies aircraft through look phase and fix phase inspection and attends pre/post inspection meeting.
2.1.1.	PERFORMS AIRCRAFT MAJOR INSPECTION.
2.1.2.	PERFORMS AIRCRAFT FIRST MINOR INSPECTION.
2.1.3.	PERFORMS AIRCRAFT SECOND MINOR INSPECTION.
2.1.4.	PERFORMS AIRCRAFT THIRD MINOR INSPECTION.
2.2.	PERFORMS AIRCRAFT HOME STATION INSPECTION.

3.	C-130 AIRCRAFT MAINTENANCE.
3.1.	PERFORMS CORRECTIVE AND PREVENTATIVE MAINTENANCE.
3.1.1.	PERFORMS AIRCRAFT AIRFRAME MAINTENANCE.
3.1.2.	PERFORMS COCKPIT AND FUSELAGE COMPARTMENT MAINTENANCE. Refurbishes aircraft exterior, interior surface, and furnishing.
3.1.3.	REMOVES AND REPLACES WHEEL, TIRE, AND BRAKE.
3.1.4.	TOWS, POSITIONS, AND GROUND HANDLES AIRCRAFT. Tows aircraft into new parking position or in and out of hangar for maintenance purposes. Deices aircraft and performs ramp snow removal. Launches and recovers assigned or transient aircraft. Refuels ground handling equipment. Provides LOX servicing, jacking, and mooring.
3.1.5.	PERFORMS FLIGHT CONTROL MAINTENANCE. Inspects, removes, replaces, rigs, and performs maintenance operational checks (MOCs).
3.1.6.	PERFORMS TURBO PROP POWER PLANT MAINTENANCE. Services, inspects, performs preventative and corrective maintenance and MOCs.
3.1.7.	PERFORMS AUXILIARY POWER PLANT MAINTENANCE. Services, inspects, performs, and operates preventative and corrective maintenance, and MOCs.
3.1.8.	PERFORMS PROPELLER MAINTENANCE, STATIC GROUND OPERATIONS, SERVICING, AND INSPECTION.
3.1.9.	PERFORMS MAINTENANCE ON AIR CONDITIONING, PRESSURIZATION, AND SURFACE ICE CONTROL SYSTEM. Troubleshoots, operates, inspects, services, removes and replaces components and performs MOCs.
3.1.10.	PERFORMS MAINTENANCE ON ELECTRICAL POWER SUPPLY SYSTEM. Troubleshoots, operates, inspects, services, removes, and replaces components and performs MOCs.
3.1.11.	REMOVES AND REPLACES LIGHTING SYSTEM. Troubleshoots, operates, inspects, removes, and replaces components and performs MOCs.
3.1.12.	PERFORMS MAINTENANCE ON HYDRAULIC/PNEUMATIC POWER SUPPLY SYSTEM. Troubleshoots, operates, inspects, removes and replaces components, rigs and performs MOCs.
3.1.13.	PERFORMS FUEL SYSTEM MAINTENANCE. Troubleshoots, operates, inspects, assists with internal fuel tank maintenance and performs MOCs.
3.1.14.	PERFORMS MISCELLANEOUS UTILITY MAINTENANCE. Services, inspects, performs MOCs and performs associated maintenance required to

	maintain toilet. Inspects, repairs and removes & replaces all loose equipment.
3.1.15.	PERFORMS EMERGENCY EQUIPMENT MAINTENANCE. Inspects, removes, replaces, and rigs as applicable: first aid kits, escape ropes, life rafts, and portable fire extinguishers as well as other emergency equipment.
3.1.16.	PERFORMS PERSONNEL AND MISCELLANEOUS EQUIPMENT MAINTENANCE. Inspects, repairs, removes, replaces, and performs preventative maintenance.
3.1.17.	MISSION SYSTEMS MAINTENANCE.
4.	TIME COMPLIANCE TECHNICAL ORDER (TCTO). Accomplishes directed TCTO and completes documentation.
5.	ASSISTANCE. Provides assistance to other maintenance functions and the flight engineer in the performance of direct labor maintenance requirements to ensure utilization of maintenance personnel.
6.	AIRCRAFT CLEANING. Performs aircraft cleaning to include washing, decontamination, snow removal, and after wash lubrication.
6.1.	PERFORMS 120-DAY WASH.
6.2.	PERFORMS DAILY CLEANING.
7.	NON-POWERED AEROSPACE GROUND EQUIPMENT/SHOP INDUSTRIAL EQUIPMENT REPAIR. Operates and inspects only.
8.	AIRCRAFT DEBRIEFING. Debriefs aircrew upon the return from a flying mission or sortie. Individual debriefing the aircrew gets a more detailed picture of any discrepancies that occur which will help facilitate the repair process.
9.	SHOP SUPPORT GENERAL CODE. Performs binding, cutting, bending, forming, casting, holding, machining, soldering, assembly, local manufacturer purchasing. Tasks are not a part of a fix on a specific job items, shop support general maintenance. Stenciling and painting (includes stenciling, lettering, installing decals, instrument range marking, etc., and painting) for cosmetic purposes only.
10.	FLIGHTLINE MAINTENANCE EXPEDITER WORKLOAD. Controls and monitors maintenance in progress and coordinates requirement status with Maintenance/MOC.
11.	AIRCRAFT CONFIGURATION AND RECONFIGURATION.
12.	HAZARDOUS WASTE.
12.1.	MANAGES HAZARDOUS WASTE PROGRAM.
12.1.1.	PROCESSES HAZARDOUS WASTE: Identifies, labels, contains and disposes of hazardous waste within applicable guidelines.

12.1.2.	MAINTAINS ACCUMULATION POINT. Maintains hazardous waste accumulation point satellite collection area and containers.
12.1.3.	MAINTAINS PROTECTIVE EQUIPMENT. Inspects and performs all tasks associated in maintaining protective equipment.
13.	TRANSIENT MAINTENANCE. Performs ground handling for transient aircraft only.
14.	FOREIGN OBJECT DAMAGE (FOD). Performs FOD walk inspects of aircraft parking areas.
15.	FLIGHTLINE SECURITY. Assists as a first line of ground security of assigned aircraft, and flight line area, both at home base and TDY locations.
16.	BENCHSTOCK. Establishes and maintains an aircraft/helicopter bench stock system for the flight line section.
17.	AIRCRAFT DOCUMENTATION AND AFTO FORM 781 DOCUMENT. Maintains Aircraft documents (AFTO Form 781s) on assigned aircraft and operate associated Computer Automated Maintenance System for job related tasks.
18.	TECHNICAL DATA SUBACCOUNT MAINTENANCE. Receives and posts data and change to technical order file. Maintains file for serviceability.
19.	MATERIAL SAFETY DATA SHEETS (MSDS).
20.	SPECIAL PLANING OR SCHEDULING. Performs planning and scheduling tasks associated with preparation for Unit Training Assembly (UTA) workload and mobility requirements.
20.1.	PREPARES FOR UTA.
20.2.	PREFORMS MOBILITY PREPARATION.
20.3.	PREPARES AND/OR PERFORMS OTHER SPECIAL PROGRAM.
21.	TRAVEL. Performs travel associated as it relates to the Air Rescue mission for conference, training, working and meeting.
22.	ENGINE RUN-UP.
23.	INDIRECT. Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are: Administers Civilian, Officer, and Enlisted Personnel; Directs Work Center Activity; Provides Administrative Support; Prepares for and Conducts/Attends Meeting; Administers Training; Manages Supplies; Maintains Equipment; and Performs Cleanup.

Attachment 3

MANPOWER TABLE

Table A3.1. Standard Manpower Table.

Work Center	Air Force Specialty Title	AFSC	Manpower Requirement								
Sortie Generation Supvr	Aerospace Maintenance	2A5X1	3	3	3	3	3	3	3	3	3
Sortie Generation Technician	Aerospace Maintenance	2A5X1	10	11	12	13	14	15	16	17	18
Total			13	14	15	16	17	18	19	20	21

Note. AFSCs may be adjusted at the discretion of the Commander.